

**Amendments to the Claims**

**The following listing of claims will replace all prior versions and listing of claims in the application. Claims canceled below are canceled without prejudice or disclaimer.**

Claims 1-15 (canceled)

16. (new) A method for error handling in a real-time automation system comprising the step of triggering at least one error reaction function by at least one of the group consisting of at least one processing error and at least one access error, wherein the at least one error reaction function is parameterizable.
17. (new) The method according to claim 16, wherein the at least one error reaction function comprises a programmable function.
18. (new) A method for error handling in a real-time automation system having at least two execution levels, the method comprising the step of triggering at least one error reaction function on one of the at least two execution levels in response to at least one of the group consisting of at least one processing error and at least one access error occurring on one of the at least two execution levels.
19. (new) The method according to claim 18, wherein the error reaction function is handled on the at least two execution levels that has lower priority than the respective level on which either or both of the processing and access errors occurred.
20. (new) The method according to claim 18, wherein the error reaction function is triggered by either or both of the processing and access errors on the same level as the error or errors, wherein the error reaction function is triggered on one of the at least two execution levels of lower priority.
21. (new) The method according to claim 18, wherein a real-time automation system is used as the automation system.

22. (new) The method according to claim 18, wherein the error reaction function is parameterized before triggering.
23. (new) The method according to claim 18, wherein the error reaction function is programmed before triggering.
24. (new) The method according to claim 16, wherein at least one access error is corrected with the aid of parameterizable access functions.
25. (new) The method according to claim 16, wherein high-priority cyclical system functions are executed without being influenced by the error reaction function.
26. (new) The method according to claim 16, wherein high-priority cyclical system functions are continued without being aborted when an error reaction function is executed.
27. (new) The method according to claim 16, wherein functions that comprise an error are aborted, whereby reliable behavior of the automation system is ensured.
28. (new) The method according to claim 16, wherein aborted non-cyclical functions are restarted, taking a respectively preceding terminated non-cyclic function as a basis.
29. (new) The method according to claim 16, wherein in the event of an occurrence of errors in cyclical functions, the automation system is stopped.
30. (new) The method according to claim 16, wherein in the event of an occurrence of errors due to the automation system, a consistent system behavior is produced without stopping the automation system.
31. (new) The method according to claim 1, wherein the real-time automation system comprises at least one of the group consisting of a machine tool and a production machine.

32. (new) A real-time automation system capable of running a plurality of tasks having different priority levels, the automation system comprising:

a plurality of execution levels each comprising a priority level, wherein the plurality of tasks are assigned to the plurality of execution levels based on the priority level associated with each of the plurality of tasks; and

at least one error reaction function for handling an occurrence of at least one error in one of the plurality of tasks assigned to one of the plurality of execution levels, wherein the at least one error reaction function is executed on one of the plurality of execution levels comprising a lower priority than the one of the plurality of tasks in which the at least one error has occurred.

33. (new) The system according to claim 32, wherein one of the plurality of tasks comprises a high priority task that is not terminated during the occurrence of at least one error in one of the plurality of tasks assigned to one of the plurality of execution levels.

34. (new) The system according to claim 32, wherein the real-time automation system comprises a motion controller.

35. (new) The system according to claim 32, wherein the at least one error reaction function comprises at least one error processing task comprising a plurality of properties.

36. (new) The system according to claim 35, wherein the plurality of properties comprises a user program for responding to the occurrence of the at least one error, wherein the user program is included in the at least one error reaction function.

37. (new) The system according to claim 33, wherein the plurality of tasks comprise at least one of the group consisting of non-cyclical tasks, interrupt tasks, and low priority cyclical tasks.

38. (new) The system according to claim 33, wherein the high priority task comprises one of the group consisting of a high-priority cyclical task and a high-priority cyclical system task.

39. (new) The system according to claim 33, wherein the at least one error comprises at least one of the group consisting of a processing error and an access error.